

CZASTKA, Jan, prof. mgr inż.; MARKOWSKI, Stanisław, prof. dr inż.; RACZKOWSKI, Józef, dr inż.

Testing methods of core drill heads with pillar points. Nafta 20
no.10:263-267 0 '64.

1. School of Mining and Metallurgy, Krakow.

MARKOWSKI, Stanislaw, prof. dr inz.; RUSEK, Piotr, mgr inz.;
SKRZYPINSKI, Antoni, mgr inz.

Wearing analysis of the grinding wheel. Mechanik 37
no.4:202-205 '64.

1. School of Mining and Metallurgy, Krakow.

10

PTA MARKOWSKI, T.

621301814 57 00
1230
Markowski T. The Question of Improving the Power Factor in Tex-
tile Industry Plants
Zadania i rozwiązania współczesnej inżynierii i zakładu inżynierii
Przemysł Włókienniczy No. 1 1961 pp
114-115

Discussion of reasons prevailing in industrial plants for the low
power factor, e.g. unsatisfactory selection of electromo-
tor work machines and substitution of individual for combined
drives, possibilities of raising the power factor. Advantages and
disadvantages of individual drives

MARKOWSKI, Tadeusz, mgr., inż.

The main trends of discussion of the 27th Conference of the International Federation of Documentation (FID) in London. Przegl techn
no.52:4 D '61.

MARKOWSKI, Tadeusz

Discussion of the normative acts in the technical and economic
information service. Akt probl inf dok 7 no.2:19-29 Mr-Apr
'62.

MARKOWSKI, Tadeusz

Organization of scientific-technical and economic information
in the U.S.S.R. Akt probl inf dok 7 no.6:3-12 N-D '62.

MARKOWSKI, T., mgr.inz.

The 31st International Poznan Fair is a source of information
in the technological field for the industry. Przegl techn no.21:
6 27 My '62.

MARKOWSKI, Tadeusz

Contribution of the Association of Polish Electrical Engineers to
higher quality of some electrical engineering goods for export and.
Przegi techn 85 no.36:8 6 S '64.

1. Deputy Manager, Quality Testing Office of the Association of
Polish Electrical Engineers.

L 10152-63
AFMOC/AFOC

KPA/PA/KPA(b)/EAT(d)/EAT(m)/BOS/ES(v)
Pas-4/Pd-4/Pg-4

AEDC/AFMTC/ASD/

PHASE I BOOK EXPLOITATION

POL/6365

Narkowski, Wacław

Zasady lotu samolotów szybkich (The Principles of Flight in High-Speed Aircraft) [Warsaw] WNDW, 1959. 44 p. 1500 copies printed.

Reviewer: Szymon Pilecki, Master in Engineering; Ed.: Jerzy Domański, Engineer; Tech. Ed.: Helena Malecowska.

PURPOSE: This book is intended primarily for readers with a secondary education, and can be of use to pilots and technical maintenance personnel, as well as to those interested in aviation.

COVERAGE: The book discusses the aerodynamic problems and flight mechanics of high-speed aircraft. There are 33 references: 9 Soviet, 11 English, 11 Polish, and 2 German.

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The Principles of (Cont.)

POL/6365

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Sonic Speed 126

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The Principles of (Cont.)

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Bibliography

AVAILABLE: Library of Congress

SUBJECT: Aerospace

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443

AD/dk/eb
7/31/63

MARKOWSKI, WADYSHAW

Distr: 4E2a(p)

4
2/10/68
13/10/68

✓ Scattering and absorption of light in photographic emulsions, depending on spatial concentration of silver halide. W. Markowski (Poznań, Wrocław, Poland). *Photophys. Chem.* 1968, No. 6, 119-29 (1968) (English summary); *J. Sci. Chem.* No. 1, 31-41 (1968). — The effect of added gelatin at const. AgX (X = Cl, Br, I) coating concn. of 0-200 g./sq. m. on optical ch. of emulsion layer in collimated and diffuse blue or red light, was investigated for fine (a) and coarse-grained (b) emulsions of mean AgX crystal size 0.75-1.15 μ . Optical d. increases with dila. with gelatin were notable for 0.27 μ (a), and scarcely noticeable for 1.15 μ (b). This is attributed to a reduction of total scattering interphase surface in more coated emulsions, owing to contact of AgX crystals. J. Szekli

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POLAND

MARKOWSKI, Wladyslaw; ILPSKI, Slawomir [affiliations not given]

"Pharmaceutical Problems in the Scientific Work of Kazimierz FUNK."

Warsaw, Farmacja Polska, Vol 19, No 1-2, 25 Jan 65, pp 35-36

Abstract: Biographic data on the Polish-born pioneer in vitamins and hormones, and brief review of his less known work in pharmaceutical research. 13 references, predominantly Soviet-bloc, including two American.

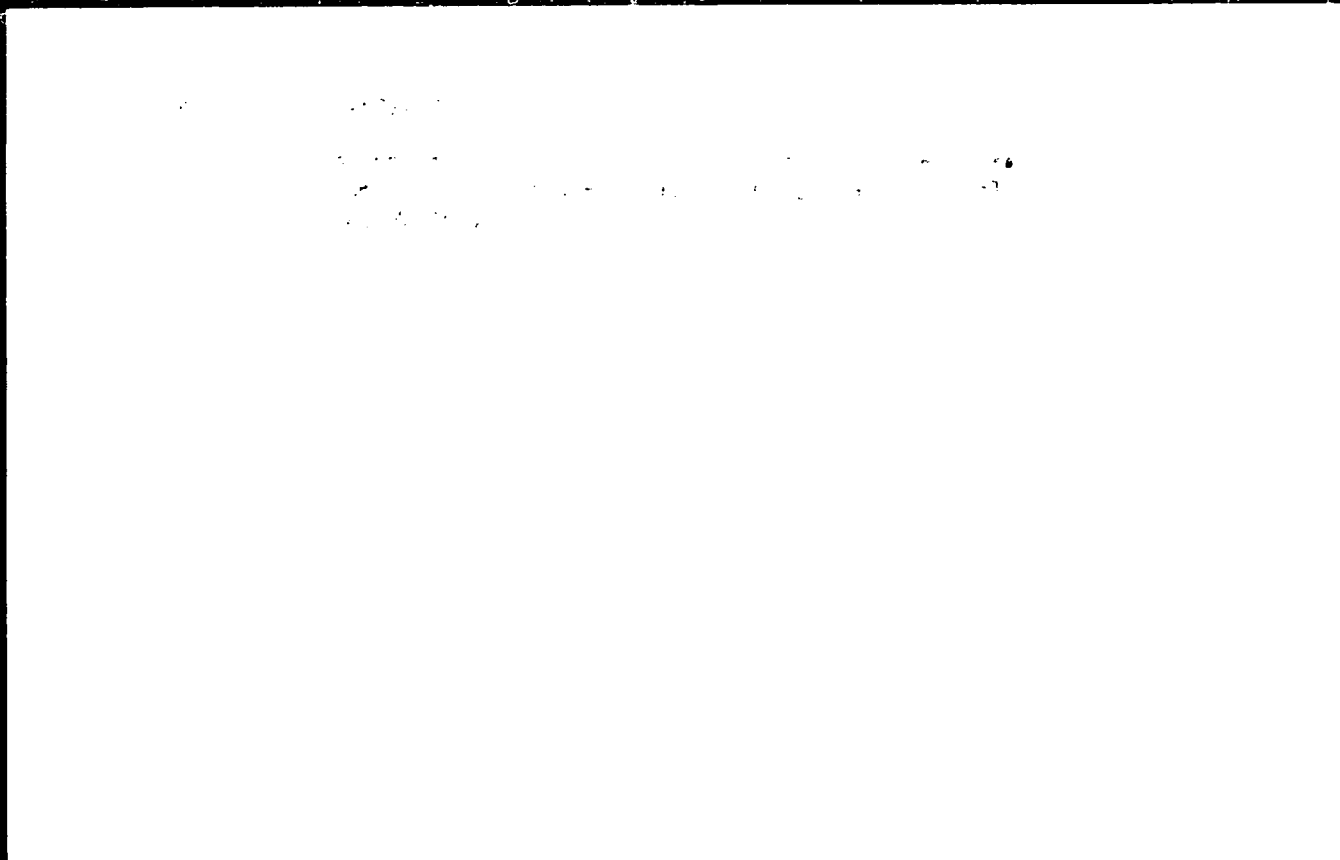
1/1

MARKOWSKI, Wladyslaw

From the Section of the History of Pharmacy of the Warsaw
Branch of the Polish Pharmaceutical Society. Farmacja
Pol 20 no. 11/12: 471 25 Je '64.

"APPROVED FOR RELEASE: 06/14/2000

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APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R001032520009-9"

MARKOZASHVILI, I.N.

5/016/02/000/007/001/002
0037/0113

AUTHORS: Aleksandrov, N.I., Golen, N.Ye., Gapochko, E.G., Garin, N.I.,
Koridze, G.G., Markozashvili, I.N., Osipov, N.P., Pischik, N.I.,
Ponobilo, I.A., Shirnov, M.S. and Turov, V.P.

TITLE: Aerosol immunization with dry dust vaccines and anatoxins.
A study of the method of aerosol immunization with dust plague
vaccines during mass immunization.

PERIODICAL: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 7,
1962, 44-50

TEXT: Tests were conducted to approve the practical use of mass aerosol
immunization with plague vaccine and to check and specify previously ob-
tained data which testified that this vaccination method was safe and had a
low reactivity. Dust plague vaccine was used in a dose of 150-200 million
living microbes of the vaccine 2B strain. Four 15-min. sessions took place
with up to 190 persons at a time in a 112 m³ room. On the days following
vaccination, 157 persons were subjected to X-ray and hematological tests.

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5/016/000/007/001/002

Aerosol immunization with dry dust vaccines...DO37/0113

It was found that the reactivity of this method is much lower than that of the subcutaneous and cutaneous immunization methods. Conclusions: (1) Aerosol immunization with dust plague vaccine, using the above-mentioned dose, provoked no distinct reaction but caused characteristic changes in the peripheral blood. (2) This method, tested under practical conditions on 543 persons, is very simple and allows the population to be mass-immunized against plague within a short time. There is 1 table.

SUBMITTED: August 8, 1961

Card 2/2

MARKOZOV, G.V.

Calculating chain stresses arising during the flexure
of plates bending along a cylindrical surface. Trudy
TSNIIMF no.66:67-69 '65. (MIRA 10:12)

MARKOZOV, I.A., inzh.-mekhanik vagona-defektoskopa (Baku)

Redesigning of the defectoscope film receiving cassette. Put'
1 put.khoz. 6 no.11:45 '62. (MIRA 16:1)
(Railroads---Equipment and supplies)

L 45187-66 EWT(m)/EWP(w)/EWP(f)/T/EWP(t)/ETI. 1D/WW
ACC NR: AR6028063 SOURCE CODE: UR/0285/66/000/005/0020/0020

AUTHOR: Topunov, A. M.; Tikhomirov, B. A.; Markozov, N. D.

ORG: none

TITLE: The relationship between the stage and cycle parameters in a single-stage lightweight gas turbine

SOURCE: Ref. zh. Turbostroyeniye, Abs. 5.49.94

REF SOURCE: Tr. Leningr. korablestroit. in-ta, vyp. 47, 1965, 145-154

TOPIC TAGS: gas turbine, gas turbine test, turbine blade, single stage compressor

ABSTRACT: The selection of cycle parameters of a high-pressure turbine in a simple gas-turbine unit is studied. The unit consists of a single-stage turbo-compressor, a combustion chamber, and a driving turbine. The principle of a constant safety factor for the fatigue strength of the turbine blades was followed in determining the effect of these parameters on the efficiency of the whole unit. [KP]

SUB CODE: 21/
Card 1/1

UDC: 621.438.001.24

Marks, Andrzej

Poland/Geophysics. General Division - International Geophysical Year, L-2

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36005

Author: Marks, Andrzej

Institution: None

Title: Artificial Earth's Satellite

Original

Periodical: Urania (Polska), 1956, 27, No 4, 102-104; Polish

Abstract: Brief report on the artificial satellite that will be launched by the US during the International Geophysical Year. A schematic diagram of the satellite and of the scientific equipment placed in it is given.

Card 1/1

MARKS, A. (Warsaw)

Maxima of Cepheids. Acta astronom 9 no.1:51 '59.

POL/1-50-2-2/14

17(11)

AUTHOR: Marks, Andrzej, Graduate Engineer

TITLE: Can Man Stand it?

PERIODICAL: Horyzonty Techniki, 1960, Nr 2, pp 51-57 (POL)

ABSTRACT: The author describes the much-discussed hazards of space travel and particularly the presumed effects of space travel on certain body functions, such as breathing. He also deals with the problem of feeding, the effects of acceleration and heat on humans traveling in space ships, with the psychological aspects of cosmic flights, with the dangers from meteors and cosmic radiation and with the survival on the Moon, Mars or Venus. The author points out that the severe tests undergone by the dog "Layka" during its 8 days in space show that man will also be able to exist in space provided the journey does not last too long and that all the scientific measures have been taken for his survival. Since several endurance tests have already been undergone successfully, there is no doubt that a short journey, such as the one to the Moon, taking 8 days there and back, would present no insurmountable difficulties. Each member of the space ship crew should be assured about 1.25 kg of oxygen per 24 hours. Research has also shown that each member of the crew would require about 1 kg of food in concentra-


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Can Man Stand it?

POL/1-50-2-2/14

ted form and 2 kg of water per 24 hours. The pressure in the space ship should be decreased to $2/3$ or even $1/2$ atm. A table showing the highest and lowest temperatures which can be obtained inside the space ship, depending whether the black or silver-painted side of the ship is turned towards the Sun, is included in the article. In the opinion of the author the crew of a space ship should consist of 1) mechanical-chemical-electronic engineer (as pilot mechanic); 2) astronomer-mathematician (as navigator) and a doctor-biologist. In case of a flight to the Moon a geologist-geodetic-geophysicist should also be included. The age of the crew should be between 30 and 40.

There are 2 figures, 3 photos and 1 table.



Card 2/2

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26.1430 a/s. 2114

AUTHOR:

Marks, Andrzej, Master of Engineering, Member of the Board

TITLE:

The Relativistic Rocket

PERIODICAL:

Horyzonty Techniki, 1960, No. 3, pp. 120 - 122

TEXT:

The author describes a hypothetical relativistic rocket which, although having the high speed needed to reach the various planets, remains a practical impossibility. He deals with the probable source of energy for such a rocket and gives some calculations of the time needed to get to the Proxima Centauri. Although the flight of the first man to the moon and to the planets Venus and Mars is anticipated for the near future, the conquest of space still is a problem and its solution is based on mere hypotheses. The theory of relativity opens the way to boldest theories on space flights. A space ship moving at the speed of light would actually appear to be at a standstill. By earthly standards a journey which would last several billions of years, would appear to the crew of the space ship to be as instantaneous as a stroke of lightning. Needless to say that such theories encourage the imagination and the author observed a lively discussion which developed already in 1951 on the subject of relativistic rockets, as a direct re-

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The Relativistic Rocket

sult of various articles dealing with astronautics. The only practical solution to the problem of a space ship reaching a speed equal to or near the velocity of light would be, in the opinion of the author, a photon rocket. Such a rocket would not be propelled by a jet of combustible gas like chemical rockets, but by a jet of photons. The source of the photon energy would be a lamp and a reflector, which would reflect the photons in the direction opposite to that in which the rocket is to travel. To produce a propelling force powerful enough the lamp would have to emit a considerable amount of light, and it is virtually impossible to find a source of energy able of producing such a light. Calculations have shown that an appropriate light beam could be produced by gas with a temperature of several hundred million degrees, but the question remains how to obtain such a temperature. A nuclear reactor might serve the purpose; however, a reactor producing such high temperatures and the corresponding quantity of light is sheer phantasy. The reflector also presents difficulties, since the mirror would have to reflect the light produced by the lamp; should only a fraction of this light be absorbed by the mirror the latter would be destroyed. It is doubtful whether it will ever be possible to produce a substance with a 100% albedo. The question of slowing down the time interval in a relativistic rocket has given rise to various hypotheses. There have been many calculations on the duration of the journey to various planets. The round-

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The Relativistic Rocket

- trip journey to Proxima Centauri has been calculated to last 8.5 years, but this calculation is wrong, since it must be remembered that a relativistic rocket would not reach a speed close to the speed of light during launching. Taking 1 g as the acceleration at launching, the time needed by the rocket to reach the speed of light would be one year. This amount of time would also be required for deceleration when reaching the target, for acceleration during take-off for return journey and deceleration during the landing on earth. This makes a total of 4 years for accelerations and decelerations. During acceleration the rocket would cover about 4,500 billion km, or 174 light days. The rocket, therefore, will not be able to develop the speed of light inside our planetary system, since the diameter of this system is only 10 billion km. A journey to Proxima Centauri by earthly standards would take 4 years for accelerations and decelerations plus 6.5 years at the speed of light for the journey itself. By rocket standards it would be 4 years for accelerations and decelerations plus a very short time for the actual journey. The plan for a journey in a relativistic rocket would have to be worked out very carefully, since flying from one planetary system to the other and the take-off and landing would take 2 years every time. Further, the fact that the stars are not stationary would also have to be taken into consideration, as well as two other relativistic phenomena, viz. the increase in the rocket mass, which is proportional to the in-

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The Relativistic Rocket

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crease in speed, and the Fitzgerald phenomenon, i.e. the decrease in the length of the rocket being proportional to its growing speed, whereby the length of the rocket traveling at the speed of light would be 0.

ASSOCIATION: Polskie Towarzystwo Astronautyczne (Polish Astronautical Society)

Card 4/4

MARKS, Andrzej, mgr.inz.

Is astronomy non-connected with life? Horyz techn 14 no.9:
386-389 S '61.

26078

P/007/61/000/037/001/002
D003/D101

26.1200

AUTHOR: Marks, Andrzej, Master of Engineering

TITLE: Rockets as medium of air passenger transportation

PERIODICAL: Skrzydlata Polska, no. 37, 1961, 9

TEXT: The article deals with the problem of utilization of rockets and rocket planes as a means of mass transportation. To the author this seems a natural trend in the development of recent aircraft design, whereby, in quest of higher speeds and efficiency of air travel the supersonic aircraft is soon to supercede its sub-sonic forerunner in accomplishing greater time-economy. With rockets, an intercontinental flight could be accomplished in less than an hour, while a round-the-earth trip would probably require less than 2 hours. One can expect, however, that rocket propulsion will be used on shorter distances of a few thousand kilometers. It is true, that rocket communication will be more expensive than aircraft communication because of expensive fuel, its large consumption and the high construction cost of rockets. However, taking into consideration

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Rockets as medium of air...

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the time-saving and turn-over capacity it might be profitable after all. The unit cost of rocket construction and of fuel will tend to decrease along with technical progress. The design of a transportation rocket may vary from a very large ballistic rocket of classical shape with built-in passenger-cabins in the cone to a rocket plane which, after reaching an altitude of 100 km and developing a speed of a few km/sec, could then begin its long supersonic glide. In the case of a ballistic rocket, landing would be effected by using deceleration devices or brake parachute to cut its remaining speed on re-entry of the atmosphere. As the gliding of a rocket increases considerably its flight range and contributes to a great extent to economical fuel consumption, in a similar manner the application of a jet-assisted take-off provides the vehicle with a high initial acceleration, prior to switching on of the rocket engines proper. Because of low efficiency of rockets at low speeds it seems that both aviation and rocket research decided together to use turbo-jet auxiliary engines. According to the author the effects of g-forces during take-off and landing and strong vibrations could be overcome

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Rockets and medium of air...

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by a careful choice of flight-parameters. Although the formerly mentioned effects would cause no particular discomfort to an average passenger, rocket travel could certainly not be recommended to ailing or constitutionally weak persons. In respect to perfect visibility, a spaceship would be at a great advantage over the aircraft, for an entire heavenful of stars would be available for observation to the passengers, irrespective of night or day thus compensating them for lack of other sensations. Conclusions: It seems almost certain that with progress in rocket engineering they will become even safer means of passenger transportation than modern conventional aircraft. An automatic control of the spaceship's navigational system would be the decisive safety factor for travel at high speed, especially, at the rocket landing stage. On the other hand, it is highly improbable that rockets can entirely supercede conventional aircraft as the sole means of transportation. There is 1 figure.

Card 3/3

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D001/D101

AUTHOR: Marks, Andrzej, Master of Engineering

TITLE: Aircraft for other planets

PERIODICAL: Skrzydlata Polska, no. 41, 1961, 9

TEXT: The author discusses the future possibilities of man's landing on planets Mars and Venus, which might become a reality in the next ten years. The purpose of the first inter-planetary expedition will be the scientific exploration of the planets' surfaces. To do this job, means of transport will be needed. The expedition will have to be equipped with vehicles for surface travelling and as there is some kind of atmosphere on both planets, with flying machines as well. All such vehicles must be light and still possess a good load-carrying capacity. They must be capable to start and land on a short landing strip, preferably vertically. The atmosphere on both planets contains no oxygen, therefore, the craft will have to carry fuel and the supply of oxydant as well. Motors of

Card 1/2

Aircraft for other planets

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these vehicles will be of special design with very high power/weight ratio; most likely it will be a small combustion turbine. No particular speed or durability of aircraft will be required, because after a few thousand kilometers of flight they will be abandoned, before the return flight to earth. Aircraft for the planet Mars will be of a special design, because the atmosphere there has only 1/10 of the density of the earth's atmosphere. In contrast, the atmosphere on the planet Venus is denser than on earth, but flying might be hampered by bad visibility, frequent storms and high temperatures (even up to 100°C). Perhaps light dirigibles could be used for flying on Mars, because of calm weather, but they would be useless on Venus. Aircraft for the planet Venus will have to be adapted for starting and landing on liquid-covered areas. There is one photograph.

Card 2/2

MARKS, Andrzej (Warszawa)

Solar activity and the earth. Wszechswiat no.5:107-109
My'61.

29474
P/007/61/001/051/001/001
D001/1101

11.1510

AUTHOR: Kazimierz J. Marten (in Polish)

TITLE: Free radical fuels

PERIODICAL: Krytyka Polska, no. 51, 1961, 3

TEXT: The purpose of the article is to present a regular description of trends in research on rocket propellants. Science all over the world is in search of new fuels to replace contemporary rocket fuels as their specific impulse attains the order of 300 seconds and cannot be boosted beyond the limit of 400 seconds. The only means of exceeding this limit is either through nuclear power or with free radical fuels. Nuclear propulsion, however, bears the risk of radioactive contamination and fallout. Free radicals tend to spontaneous recombination into stable systems under simultaneous evolution of vast amounts of energy. There are scores of free radical compounds, but the ideal rocket fuel, though still of theoretical value, would be atomic hydrogen which has the greatest yield of energy per unit of mass.

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Incombustible fuels

ific impulse has been calculated at being as high as 2,160,000 ft. per second, which on a scale of half would be available in practice. Extensive research is in progress in order to overcome two major difficulties: the production of free radicals and subsequent removal of production alone. The process is an unusual difficulty provided that a sufficient quantity of free radicals is available, but storage of free radicals is a great problem. It is suggested that it can be achieved by means of a low temperature in the range of -100 to -150°C. However, this process is not efficient and only a minute quantity of free radicals will reach the desired condition. A possible method of producing solvent in a different manner is suggested: production, i.e., by gamma or X-ray. The production of this product is expected to greatly simplify the construction of a rocket engine.

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AUTHOR: Marks, Andrzej, Master Engineer

TITLE: Three ways of landing

PERIODICAL: Skrzydlata Polska, no. 1, 1962, 11

TEXT: The purpose of this article is to inform readers of Skrzydlata Polska about problems connected with bringing space vehicles back to earth. The author outlines three methods of descent. The safest means of slowing down a returning space capsule before it enters dense layers of the earth's atmosphere is by a retro-rocket. However, such a retro-rocket constitutes too large a payload and renders this method unrealistic. The second method is by aerodynamical braking. When recovered by this method, artificial satellites entered the atmosphere tangentially and gradually slowed down. The path of space vehicles returning to earth will have to be changed from vertical to tangential before re-entry into the atmosphere. When passing through the atmosphere, a capsule will be exposed to very high temperatures which develop in adiabatic compression of air. This exposure to heat can be overcome by an outer shell made of heat resistant material and underlaid with an insulating layer. An additional means is the selection of such outer skin material

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Three ways of landing

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which has a high vaporization heat. The third method of safe landing is to provide space vehicles with airfoils for a smooth descent much like a glider.

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X

MARFS, Andrzej (Warszawa)

The atmosphere of the moon. Wszechswiat no.10:445-448
'62.

MARKS, Andrzej, mgr inż.

The interpretation of statistical data on traffic accidents
should be more to the point. Motor 11 no.31:3 5 Ag '62.

MARKS, Andrzej, mgr inz.

When the petroleum sources are exhausted.... Motor 11
no.49:8 9 D '62.

MARKS, A. (Warsaw-Miedzeszyn)

Minima of eclipsing binaries. Acta astronom 12 no.2:138-139
'62.

MARKS, Andrzej, mgr. inż.

The most difficult technological problem. Przegl
techn no.15:6,8 Ap '62.

MARKS, Andrzej, mgr inz.

The way it has been proven. Horyz techn 15 no.2:15-16 '62.

MARKS, Andrzej, mgr. inż.

The success of American astronautics. Horyzonty techniki
15 no.4:12-15 '62.

1. Członek Polskiego Towarzystwa Astronautycznego, Warszawa.

MARKS, Andrzej, mgr inz.

Achievements of Soviet cosmonautics. Horyz. techn 15 no.11:5-8
'62.

MARKS, Andrzej, mgr inz.

Nuclear rocket engines. Woryz techn 16 no.12: 10-11: D'63.

MARKS, Andrzej, mgr.

Signals recieved from Mercury. Problemny 18 no.1:67 '62

MARKS, Andrzej, mgr.inz.

Project Gemini, a rendezvous in the universe. Problemy 18
no.6:433-434 '62.

MARKS, Andrzej, mgr inz.

Before us the moon. Problemy 19 no.11:783-788 '62.

38708
P/007/62/000/031/001/001
D001/D101

6.133C
AUTHOR: Marks, Andrzej, Master of Engineering

TITLE: Means of spaceship propulsion

PERIODICAL: Skrzydlata Polska, no. 31, 1962, 7-8

TEXT: The narrative is the first part of a serial and spans ancient and modern times. The only usable means of propulsion nowadays is stated to be chemical fuels, because the storage of free radicals has not yet been mastered. The outlook of efficient nuclear propulsion in rockets is restricted to indirect use of controlled nuclear reaction as a source of heat, and inhibited by such factors as heat resistance of materials, weight etc. These obstacles have caused engineers to attempt harnessing nuclear explosions for rocket propulsion. An adequate rocket motor is envisioned as a thick-walled spherical steel tank several tens of meters in diameter with an exhaust nozzle. Small nuclear charges embedded in blocks of ice, periodically introduced into and exploded in the tank, would produce superheated gas under enormous pressure and thus provide necessary thrust. There are 2 figures.

Card 1/1

MARKS, Andrzej, mgr inż.

The lunar ranger. Przegl techn no.33:7 18 Ag '62.

MARKS, Andrzej, mgr inz.

Astronautics is entering the secondary schools. Horyz techn 16 no.3:
18-19 '63.

MARKS, Andrzej, mgr inz.

Soviet carrier rockets. Horyz techn 16 no.5:3-5 '63.

MARKS, Andrzej, mgr inz.

After the moon to Mars. Horyz techn 16 no.7:3-6 '63.

MARKS, Andrzej, mgr inz.

There are no canals on Mars. Problemy 19 no.3:15~~6~~-161 '63.

MARKS, Andrzej, mgr

800° C on the Mercury. Problemy 19 no.6:387 '63.

MARKS, A., mgr inz.

Cosmic parliament meeting in Warsaw. Horyz techn 16 no.9:
26-27 '63.

MARKS, Andrzej, mgr inż.

Eva of the cosmos. Przegl techn 84 no.27:1,2 7 J1 '63.

MARKS, Andrzej. mgr inz.

New numeration of cosmic vessels. Problemy 19 no.9:589-590
'63.

MARKS, Andrzej, mgr inż.

New theory of the solar corona. Problemy 19 no.9:589
'63.

P/005/63/000/007/002/002
D204/D307

AUTHOR: Marks, Andrzej, Master of Science, Engineer

TITLE: Characteristics of 'Mars I'

PERIODICAL: Przegląd Techniczny, no. 7, 1963, 7

TEXT: Elemental principles of space flight are given.
Mars I is in an elliptical circumsolar orbit tangential to the orbits
of both Earth and Mars, with a perigee at ~ 150,000 and an apogee at
~ 240,000 miles from the sun.

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MARKS, Andrzej, mgr inż.

Electron telescope. Przegl techn 84 no.12:5 24 Mr '63.

MARKS, A., mgr. inz.

Synchronized transmission satellite. Letecký obzor 7 no.9:
278 S'63.

MARKS, A., mgr inz.

Laser television. Przegl techn 84 no.15:7 14 Ap '63.

MARKS, Andrzej, mgr inz.

Soviet rockets on interplanetary lanes. Horyz techn 17
no.6:18-19 Je '64.

MARKS, Andrzej, mgr inż.

Unusual guns. Przegl techn 85 no.9:7 1 Mr'64.

MARKS, Andrzej, mgr inż.

A good beginning in cosmic collaboration. Przegl techn
85 no. 12: 2 22 Mr '64.

MARKS, Andrzej, mgr inz.

Cosmonautics at the crossroad. Wzrost techn 17 no. 2: 11-13
F '64.

MARKS, Andrzej, mgr inz.

Testing of rocket engines performed on the ground. Przegl techn 85 no.18:
8 1-3 My '64.

MARKS, Andrzej, mgr inz.

Bringing back from the orbit around the earth. Przegl techn 85 no.21:
9 24 My '64.

MARKS, ALBERT, JR.

Military operations in the Americas. 1942-1945. 1942-1945.
Ag. 10.

MARKS, Andrzej, mgr inż.

Soviet cosmic satellites are opening new roads. Horyz techn
17 no. 9:16-19 3 '84.

Wanda, Andrzej, 1925-1985

Wanda, Andrzej, 1925-1985
85 m. 1985-1985

Wanda, Andrzej, 1925-1985

WALKS, Andrew, ing. 117.

The Pittman Astronautical. 117. 117. 117. 117.
28 S. 117.

MARKS, Andrzej, mgr inż.

Steering in space. Przegl techn 85 no. 43-4 25 6 '64.

MARKS, Andrzej, mgr inż.

The cosmos is getting closer to man. Przegl techn 85 no.44:
1, 3 1 N°64

L 42607-65 EPF(c)/EPF(n)-2/EPR/ENG(j)/EPA(w)-2/EWA(c)/EWT(a)/EWT(m)/EWP(1)/EPA(bb)-2/
T-2/EWP(b)/T/EWA(m)-2/FSS-2/EWP(e)/EWP(f)/EWP(t) Pf-4/Pr-4/Pa-4/Pu-4/Pz-6/Pab-10

ACCESSION NR: AP5003223 IJP(c) TI/ P/0007/65/000/004/0009/0009
WH/WW/JW/JD

AUTHOR: Marks, A. (Master engineer)

TITLE: Why there are still no nuclear powered rockets

SOURCE: Skrzydlata Polska, no. 4, 1965, 9, 18

TOPIC TAGS: rocket engine, nuclear powered rocket, atomic power, interplanetary
rocket, rocket propellant, reactor moderator

ABSTRACT: The paper discusses, in popular terms, the reasons why there are still no nuclear powered rockets, in spite of the great hopes at the time when nuclear power first became available. The one promising method of using nuclear power for the propulsion of rockets is described; this method is based on the use of a nuclear reactor placed inside the rocket to produce the high temperature required for the propellant to be ejected with a sufficiently high velocity through the exhaust nozzle. As the propellant, hydrogen will be used as the lightest element, thus ensuring maximum momentum. U-235 is proposed as the most likely fission material because of its high melting point. As a moderator, graphite is considered to be the most suitable, again because of its high melting point; however, its affinity to hydrogen makes it difficult to use without a special protective coating. Hafnium carbide is another likely moderator for use in nuclear-powered

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ACCPSSION NR: AP5003223

rockets. The fact that any future nuclear reactor for use inside a rocket could not provide a higher temperature than that developed by chemical fuels, and that nuclear rocket engines are heavier than those using chemical fuels, is considered to be the main reasons why no spectacular advances could be expected in the application of nuclear power to the propulsion of rockets, in spite of the fact that a nuclear-powered motor using hydrogen as the propellant, instead of the much heavier burnt gases used in chemically-fueled jet engines, could develop three times the thrust of the present rocket motors using chemical fuels. The work carried out in the USA in this field is briefly described (the "Kivi" ground device and its damage during testing). The biological problems associated with the presence of a nuclear device inside a rocket are discussed; these problems are not considered to be very serious since ample shielding of the pilot can be provided. Because of their weight, only medium-power nuclear rocket motors could be used for the late stages of a multi-stage rocket. For the main, booster stages, chemically fueled rocket motors would have to be used because of their advantage in weight over nuclear-powered rocket motors. Liquid and gaseous fission materials are also mentioned as possible nuclear fuels, because their greater resistance to heat would make it possible to develop higher temperatures than when using solid nuclear materials. However, the use of non-solid materials would make the solution to the problem of preventing intermixing between the nuclear

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ACCESSION NR: AP5003223

fuel and the propellant (e.g., hydrogen) very difficult. The paper concludes that, although no spectacular achievements in this field could be expected at the present time, the future prospects in the application of nuclear power to the propulsion of rockets are still very promising. Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: PR, NP

NO REF SOV: 000

OTHER: 000

Card 3/3 CC

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POLAND

MALAS, Andrzej

No affiliation but city of Warsaw

Crakow, Orania, No 11, November 1965, pp 306-309

"Results of the Investigations of Mariner-4."

MARKS, Andrzej, mgr inż.

Solar power engineering. Electr. techn. 84. 1984. 3. 1984.

MARKS, Andrzej, was 174.

Mariner 4. Project 1000. 10. 1950.

MARKS, Andrzej, mgr inż.

The first time outside the cabin. Przegl techn 86 no.15:2,7
11, p '65.

MARKS, Andrzej, mgr inż.

Cosmonauts steer their craft. Przegl techn 86 nr. 17.2 25 lip 1985.

L 61685-65 EEO-2/EWT(d)/RSS-2/EWT(m)/FS(v)-3/ENP(w)/EEC(k)-2/ENG(v)/EMA(d)/
ENP(v)/T-2/ENP(k)/EMA(h) TT/MM/EM

ACCESSION NR: AP5018891

FO/0007/65/000/032/0010/0011

AUTHOR: Marks, A. (Master engineer)

TITLE: Sphere or cone? [Optimum spacecraft-capsule design]

SOURCE: Skrzydlata Polska, no. 32, 1965, 10-11

TOPIC TAGS: spacecraft capsule, spacecraft design, spacecraft reentry, reentry vehicle vulnerability

ABSTRACT: The article compares the specially designed new Soviet one-passenger spacecraft of the "Vostok" type recently exhibited simultaneously in Moscow and Paris along with American spacecraft of the "Mercury" and "Apollo" types, the latter destined for lunar flights. It is pointed out that the Soviet vehicle is spherical in form, which makes it less susceptible to catastrophe during reentry should it lose orientation, whereas the American ships are of conical form which make them very susceptible to such mishaps. It is maintained that American astronauts are being subjected to particular hazards in view of the flights planned for them in the present ships, that Soviet Russia could have made the first manned space flight in 1960 instead of in 1961, had they been willing to take such risks, and

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1. 64685-85

ACCESSION NR: AP5018891

that Soviet space scientists were able to construct spacecraft of the "Mercury" type in early 1959, or even late in 1958. Orig. art. has: 10 figures.

ASSOCIATION: none

SUBMITTED: 00

ENGL: 00

SUB CODE: AS

NO REF BOV: 000

OTHER: 000

Card 2/2

145260

Z/037/62/000/005-6/040/049
E073/E139

AUTHOR: Marks, E.

TITLE: Gas desorption from glass

PERIODICAL: Ceskoslovenský časopis pro fysiku, no.5-6, 1962,
667-669

TEXT: The quantity of desorbed gases evacuated by means of a mercury diffusion pump was determined from the pressure measured by a Pirani manometer. The composition of the gases was investigated by determining the quantities of water vapour, carbon dioxide and gases that do not condense at the temperature of liquid nitrogen. Before measurement, the glass was cleaned in gasoline and ethyl alcohol and dried in air at 100 °C. After heating for one hour at 500 °C, the quantity of residual gases in the different types of glass amounted to $1.16 - 2.12 \times 10^{-3}$ mm Hg.litre cm⁻², of which water vapour amounted to over 90%, CO₂ - 5.5 to 7.5%, N₂ - 1.5 to 2.0%. Silica glass (with a porous surface) heated to 800 °C released 3.80×10^{-3} mm Hg.litre cm⁻² of gas, of which about 50% was water, 12.4% CO₂ and 38.2% components which did not condense at liquid nitrogen temperature. The influence of surface treatment

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Gas desorption from glass

Z/037/62/000/005-6/040/049
E073/E139

was studied on glass with the composition: 68% SiO₂, 17% Na₂O + H₂O, 8.6% CaO, heated for 60 min at 100, 200, 300, 400 and 500 °C. Specimens cleaned only with gasoline and ethyl alcohol and dried in air at 100 °C showed a characteristic maximum in the temperature range 100-200 °C and a minimum at 400 °C. Specimens heated for 15 min in boiling distilled water showed a considerably increased gas desorption corresponding to a saturation of the surface with water. Cleaning with chromic acid did not reduce desorption. Most effective are methods which remove the surface layer of the glass, for instance etching with hydrofluoric acid. This resulted in a four- to five-fold reduction in the gas desorption. Exposure of the glass specimens to air of a relative humidity of 55% and a temperature of 20 °C for 24 hours had only a slight effect on the gas sorption, whilst exposure under the same conditions for 168 h doubles the sorption. Other types of glass gave similar results except that the actual gas quantities differed, depending on the chemical composition and stability of the glass.

There are 3 figures and 1 table.

ASSOCIATION: Průmyslový ústav elektroniky, Varšava
(Industrial Electronics Institute, Warsaw)

Card 2/2

MARKS, Eugeniusz; SZEWCZYKOWSKI, Jerzy; MISZCZAK, Jan

A case of late familial amaurotic idiocy. Neurol. neurochir.
psychiat. Pol. 14 no. 2:257-259 Mr-Apr '64.

1. Z Oddziału Neurologicznego Wojskowego Instytutu Medycyny
Lotniczej (Konsultant naukowy: prof. dr med. I. Hausmanowa-
Petrusewicz).

NIZNIKOWSKA-MANN'S J. PAPPE, Eugene

A case of exaggerated insensitivity to pain. Neur. l., neur. l.,
psychiat. Pol. l. no. 2:521-522. Ky-3e 1964

1. Z Kliniki Chirurgii. Instytut Chirurgii w Warszawie. Lekt.
rownik: prof. dr. med. T. Lepajko.

MARKS, Eugeniusz; SZEWCHYKOWSKI, Jerzy

Neurological manifestations in toxic lesions of the hematopoietic system. Wiad. lek. 18 no.15:1267-1270 1 Ag '65.

1. Z Wojskowego Instytutu Medycyny Lotniczej.

MARKS, Eugeniusz; SZEWCZYKOWSKI, Jerzy

A case of generalized herpes zoster. Wiad. lek. 18 no.16:
1349-1351 15 S '65.

1. Z Wojskowego Instytutu Medycyny Lotniczej.

L 17416-66 EWT(1) SCTB DD

ACC NR: AP6004989

(A, N)

SOURCE CODE: PO/0069/66/000/001/0051/0055

AUTHOR: Marks, Eugeniusz (Lieutenant colonel; Doctor of medicine); Czech, Stanislaw (Major; Physician)

ORG: Military Institute of Flight Medicine (Wojskowy Instytut Medycyny Lotniczej)

TITLE: The etiology of dizziness from the point of view of aviation medicine

SOURCE: Lekarz wojskowy, no. 1, 1966, 51-55

TOPIC TAGS: flight disorientation, flight physiology, atmospheric flight

ABSTRACT: The authors review the problems associated with dizziness or vertigo occurring in pilots during flight. Among the factors affecting balance in man are emotional disturbances, disturbances in blood pressure, vomiting, and excessive sweating. Among other factors affecting balance, the authors cite chronic or acute illnesses, such as tuberculosis, malignant changes in the area of the central nervous system, and general toxic effects of alcohol, nicotine, caffeine, and other poisonous substances. The effect of drugs, such as streptomycin, sulfas, barbiturates, estrogen preparations, and psycholeptic drugs is mentioned. Still other factors affecting balance are disturbances

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ACC NR: AP6004989

in the function of many internal organs. Two of the important factors affecting pilots during difficult flights are vibration of the plane and the performance of certain acrobatic maneuvers. The authors feel that more experimentation in this field is necessary. [08]

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